

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

1. (Currently Amended) A polyisocyanate composition with a high mean functionality, obtained by polycondensation of diisocyanate or triisocyanate monomers, comprising:

(a) from 0.5% to 30% by mass, relative to the total mass of the components a), b) and c), of compounds bearing a single uretidinedione functional group having a molecular mass of not more than twice the average molecular mass of the isocyanate monomers having the highest molecular mass;

(b) from 0.5% to 45% by mass, relative to the total mass of the components a), b) and c), of compounds bearing a single isocyanurate functional group with a molecular mass of not more than three times the average molecular mass of said isocyanate monomers having the highest molecular mass;  
the molar ratio of (a)/(b) being between 0.02 and 2, ~~advantageously between 0.2 and 1.8, and preferably less than or equal to 1.6~~[[,]]

(c) at least 40% by mass, relative to the total mass of the components a), b) and c), of a mixture of polyisocyanate compounds having a molecular mass at least equal to three times the average molecular mass of the isocyanate monomers having the smallest molecular mass and bearing at least two isocyanate functional groups, and  
said mixture comprising

(i) compounds bearing at least two isocyanurate functional groups, excluding those comprising uretidinedione functions,

(ii) compounds bearing at least two uretidinedione functional groups, excluding those comprising isocyanurate functions and for which the number of monomer units is less than 5,

(iii) compounds bearing at least one isocyanurate functional group and at least one uretidinedione functional group, having a molecular mass greater than three times the highest molecular mass of the above isocyanate monomer compounds;

said mixture having a ratio: carbonyl functional groups belonging to a uretidinedione ring/carbonyl functional groups belonging to an isocyanurate ring + carbonyl functional groups belonging to a uretidinedione ring, at least equal to 4%;

d) from 0 to 25% by mass, relative to the mass of the components a), b), c), d) and e), of compounds bearing at least one isocyanate functional group that are different than a), b) and c); and

e) from 0 to 10% by mass, relative to the mass of the components a), b), c), d) and e), of impurities;

said polyisocyanate composition having a functionality of greater than 3.

2. (Currently Amended) The polyisocyanate composition as claimed in claim 1, ~~characterized in that it has~~ having a functionality of greater than 3, ~~advantageously greater than 3.5 and preferably greater than 4.~~

3. (Currently Amended) The polyisocyanate composition as claimed in claim 1, ~~characterized in that it comprises~~ comprising from 1% to 30% by mass of the component (a) relative to the total mass of the components a) + b) + c).

4. (Currently Amended) The polyisocyanate composition as claimed in claim 1, ~~characterized in that it comprises~~ comprising from 5% to 40% by mass of the component (b) relative to the total mass of the components a) + b) + c).

5. (Currently Amended) The polyisocyanate composition as claimed in claim 1, ~~characterized in that~~ wherein the component c) represents at least 45% ~~and advantageously at least 50%~~ by mass relative to the total mass of the components a) + b) + c).

6. (Currently Amended) The polyisocyanate composition as claimed in claim 1, ~~characterized in that~~ wherein the mass ratio  $[c)(i) + c)(iii)]/b$  is greater than 2[[,]] ~~advantageously greater than 3 and preferably greater than 4.~~

7. (Currently Amended) The polyisocyanate composition as claimed in claim 1, ~~characterized in that~~ wherein the amount of compounds c)(ii) is less than 30% by weight relative to the total amount of compounds categorized in c)[[,]] ~~preferably less than 20% and more preferably less than 15%.~~

8. (Currently Amended) The polyisocyanate composition as claimed in claim 1, ~~characterized in that~~ wherein the component d) represents not more than 10% by mass relative to the total mass of the components a) + b) + c) + d) + e).

9. (Currently Amended) The polyisocyanate composition as claimed in claim 1, ~~characterized in that~~ wherein the component e) represents from 0.05% to 10%~~[[,]] generally from 0.1% to 8%, especially not more than 5%~~ by mass relative to the total mass of the components a) + b) + c) + d) + e).

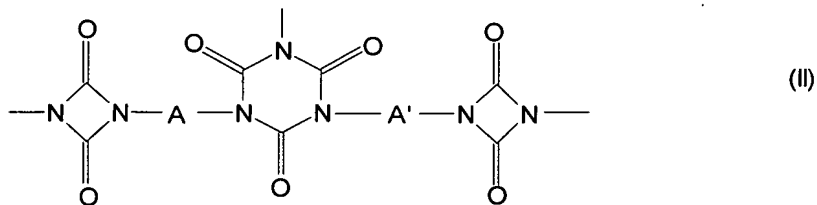
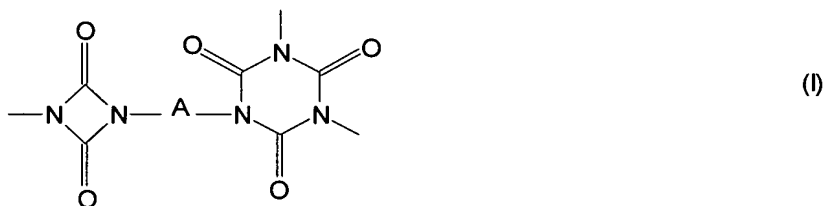
10. (Currently Amended) The polyisocyanate composition as claimed in claim 1, ~~characterized in that~~ wherein the component e) consists of residues formed from polycondensation catalyst and/or of byproducts from the polycondensation of the starting isocyanate monomers and/or of solvent(s).

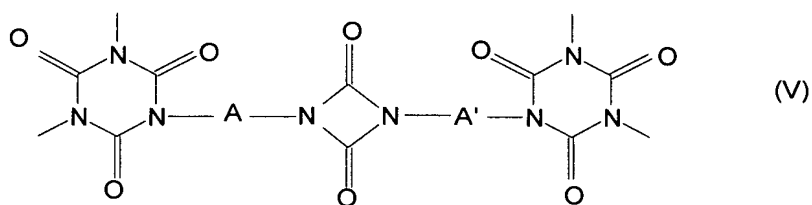
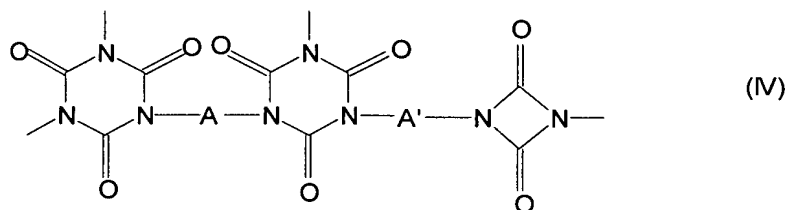
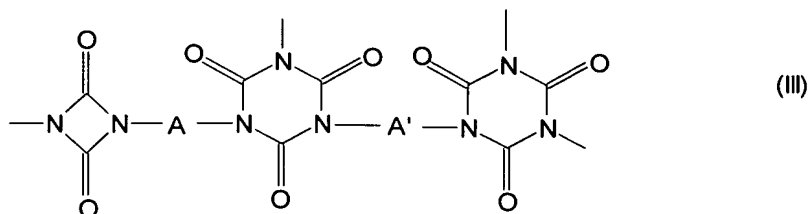
11. (Currently Amended) The polyisocyanate composition as claimed in claim 1, ~~characterized in that~~ wherein the component d) comprises said residual isocyanate monomer(s).

12. (Currently Amended) The polyisocyanate composition as claimed in claim 11, ~~characterized in that~~ wherein said isocyanate monomer(s) represent(s) from 0.05% to 20%~~[[,]] more generally from 0.1% to 10%, advantageously not more than 2% and preferably not more than 1%~~ by mass of the mass of the components a) + b) + c) + d) + e).

13. (Currently Amended) The composition as claimed in claim 1, ~~characterized in that it also comprises~~ further comprising an amount of not more than 200% ~~and advantageously not more than 100%~~ by mass of a) + b) + c) + d) + e), ~~preferably not more than 50%~~, of an organic solvent or mixture of organic solvents that is liquid at ambient temperature, which does not comprise an isocyanate functional group, which does not comprise a functional group capable of reacting with the isocyanate functional group, which has a boiling point of not more than 200°C and which is miscible with the components a), b), c), d) and e).

14. (Currently Amended) The composition as claimed in claim 1, ~~characterized in that~~ wherein the compounds comprising at least one uretidinedione ring and at least one isocyanurate ring comprise a group ~~chosen~~ selected from formulae (I) to (V) below, and mixtures thereof:





in which A and A', which ~~may be~~ are identical or different, represent the residues of an isocyanate monomer compound after removal of two isocyanate functional groups.

15. (Currently Amended) The composition as claimed in claim 1, ~~characterized in that it comprises~~ comprising from 1% to 100%, ~~advantageously from 10% to 100%~~, of the NCO groups present in the composition masked using a masking agent.

16. (Currently Amended) The composition as claimed in claim 15, ~~characterized in that~~ wherein the masking agent is a monofunctional masking agent ~~chosen~~ selected from the group consisting of hydroxylamine derivatives, oximes,

phenol derivatives, amide derivatives, malonates, keto esters, hydroxamates and nitrogenous heterocyclic compounds.

17. (Currently Amended) The composition as claimed in claim 16, ~~characterized in that~~ wherein the masking agent is methyl ethyl ketoxime or methyl pyruvate oxime.

18. (Currently Amended) The composition as claimed in claim 15, ~~characterized in that~~ wherein the masking agent is ~~chosen~~ selected from the group consisting of pyrrolyl, 2H-pyrrolyl, imidazolyl, pyrimidinyl, pyridazinyl, pyrazinyl, pyrimidinyl, pyridazinyl, indoliziny, isoindolyl, indolyl, indolyl, indozolyl, purinyl, quinoliziny, isoquinolyl, pyrazolidinyl, imidazolidinyl and triazolyl groups.

19. (Currently Amended) A process for preparing the polyisocyanate composition as claimed in claim 1, comprising the following steps:

i) preparing a starting reaction medium ~~is prepared~~ comprising the starting isocyanate monomer(s) and optionally other monomers that react with the isocyanate functional group;

ii) reacting the starting reaction medium ~~is reacted~~ in the presence of a dimerization catalyst, optionally by heating the reaction medium to a temperature of at least 40°C;

iii) reacting the reaction product from step ii), comprising unreacted monomers, ~~is reacted~~ with a (cyclo)trimerization catalyst under (cyclo)trimerization conditions;

iv) removing the unreacted starting monomers ~~are removed~~ from the reaction product from step iii); and

v) optionally reacting the reaction medium ~~is optionally reacted~~ with a masking agent before, during or after steps i) to iv);

~~in which~~ process step iii) is being carried out until a degree of conversion of isocyanate monomers present in the starting reaction medium of at least 35%[[,]] ~~advantageously of at least 40%~~ is achieved.

20. (Currently Amended) A process for preparing the polyisocyanate composition as claimed in claim 1, comprising the following steps:

i) preparing a starting reaction medium ~~is prepared~~ comprising the starting isocyanate monomer(s) and optionally other monomers that react with the isocyanate functional group;

ii) reacting the starting monomers ~~are reacted~~ with a (cyclo)trimerization catalyst under (cyclo)trimerization conditions;

iii) reacting the reaction medium of step ii) ~~is reacted~~ in the presence of a dimerization catalyst, optionally by heating the reaction medium to a temperature of at least 40°C;

iv) removing the unreacted starting monomers ~~are removed~~ from the reaction product from step iii); and

v) optionally reacting the reaction medium ~~is optionally reacted~~ with a masking agent before, during or after steps i) to iv);



~~in which~~ process step iii) is being carried out until a degree of conversion of isocyanate monomers present in the starting reaction medium of at least 35%[[.]] ~~advantageously of at least 40% is achieved.~~

21. (Currently Amended) The process as claimed in claim 19, ~~characterized in that~~ wherein the dimerization catalyst is ~~chosen~~ selected from ~~compounds such as~~ the group consisting of tris(N,N-dialkyl)phosphotriamides, N,N-dialkylaminopyridines ~~or~~ and trialkylphosphines.

22. (Currently Amended) The process as claimed in claim 19, ~~characterized in that~~ wherein the dimerization catalyst is ~~chosen from compounds of~~ a trialkylphosphine type.

23. (Currently Amended) The process as claimed in claim 19, ~~characterized in that~~ wherein the trimerization catalyst is ~~chosen from compounds of~~ a trialkylphosphine type.

24. (Currently Amended) The composition as claimed in claim 1, for preparing a coating, ~~characterized in that it also comprises~~ further comprising, for successive or simultaneous addition, a coreactant comprising reactive hydrogen.

25. (Currently Amended) ~~The use of the compositions as claimed in claim 1,~~ A method for preparing a coating, in particular a paint or other coating comprising incorporating therein a composition as claimed in claim 1.

26. (Currently Amended) A process for preparing polymers, characterized ~~in that it comprises~~ comprising the following steps:

- bringing the polyisocyanate composition as defined in claim 1 into contact with a coreactant that comprises derivatives containing reactive hydrogens; and
- heating the reaction medium thus formed to a temperature that allows crosslinking of the components.

27. (New) The polyisocyanate composition as claimed in claim 1, wherein the molar ratio of (a)/(b) is between 0.2 and 1.8.

28. (New) The polyisocyanate composition as claimed in claim 27, wherein the molar ratio of (a)/(b) is less than or equal to 1.6.

29. (New) The polyisocyanate composition as claimed in claim 2, having a functionality of greater than 4.

30. (New) The polyisocyanate composition as claimed in claim 5, wherein the component c) represents at least 50% by mass relative to the total mass of the components a) + b) + c).

31. (New) The polyisocyanate composition as claimed in claim 6, wherein the mass ratio  $[c(i) + c(iii)]/b$  is greater than 3.

32. (New) The polyisocyanate composition as claimed in claim 31, wherein the mass ratio  $[c)(i) + c)(iii)]/b$  is greater than 4.

33. (New) The polyisocyanate composition as claimed in claim 7, wherein the amount of compounds c)(ii) is less than 20% by weight relative to the total amount of compounds categorized in c).

34. (New) The polyisocyanate composition as claimed in claim 33, wherein the amount of compounds c)(ii) is less than 15% by weight relative to the total amount of compounds categorized in c).

35. (New) The polyisocyanate composition as claimed in claim 9, wherein the component e) represents from 0.1% to 8% by mass relative to the total mass of the components  $a) + b) + c) + d) + e)$ .

36. (New) The polyisocyanate composition as claimed in claim 35, wherein the component e) represents not more than 5% by mass relative to the total mass of the components  $a) + b) + c) + d) + e)$ .

37. (New) The polyisocyanate composition as claimed in claim 12, wherein said isocyanate monomer(s) represent(s) from 0.1% to 10% by mass of the mass of the components  $a) + b) + c) + d) + e)$ .

38. (New) The polyisocyanate composition as claimed in claim 37, wherein said isocyanate monomer(s) represent(s) not more than 2% by mass of the mass of the components a) + b) + c) + d) + e).

39. (New) The polyisocyanate composition as claimed in claim 38, wherein said isocyanate monomer(s) represent(s) not more than 1% by mass of the mass of the components a) + b) + c) + d) + e).

40. (New) The composition as claimed in claim 13, further comprising an amount of not more than 100% by mass of a) + b) + c) + d) + e), of an organic solvent or mixture of organic solvents as defined in claim 13.

41. (New) The composition as claimed in claim 13, further comprising an amount of not more than 50% of an organic solvent or mixture of organic solvents as defined in claim 13.

42. (New) The composition as claimed in claim 15, comprising from 10% to 100% of the NCO groups present in the composition masked using a masking agent.

43. (New) The process as claimed in claim 19, wherein process step (iii) is carried out until a degree of conversion of isocyanate monomers present in the starting reaction medium of at least 35% is achieved.

44. (New) The process as claimed in claim 20, wherein process step (iii) is carried out until a degree of conversion of isocyanate monomer present in the starting reaction medium of at least 40% is achieved.